## REMARKS/ARGUMENTS

These remarks are made in response to the Office Action of June 11, 2008 (Office Action). As this response is timely filed within the 3-month shortened statutory period, no fee is believed due. However, the Examiner is expressly authorized to charge any deficiencies to Deposit Account No. 50-0951.

### Claim Rejections – 35 USC § 112

Claim 13 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite.

Claim 13 has been cancelled.

### Claim Rejections – 35 USC § 103

Claims 1, 3-10, and 12-16 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent 5,225,981 to Yokogawa (hereinafter Yokogawa) in view of U.S. Patent 5,396,419 to Morimoto (hereinafter Morimoto).

Applicants have cancelled Claims 1-16. However, Applicants are not conceding that the cancelled claims fail to present patentable subject matter. The cancellations are solely for the purpose of expediting prosecution. Accordingly, the cancellations should not be interpreted as the surrender of any subject matter, and Applicants expressly reserve the right to present the original version of any of the cancelled claims in any future divisional or continuation applications from the present application.

New Claims 17-20 have been added. As discussed herein, the newly added claims are fully supported throughout the Specification. No new matter has been introduced by the claim amendments.

## *Aspects of Applicants' Invention*

It may be helpful to reiterate certain aspects of Applicants' invention prior to addressing the cited references. One embodiment of the invention, as typified by amended Claim 17, is a method of performing a morphological analysis on a text string by using a computer.

The method can include selecting whether or not to decompose a decomposable complex word in response to a request from an application making use of a result of the morphological analysis (see, e.g., Specification, paragraphs [0044] and [0055]); inputting the text string to be processed; and decomposing the text string into tokens. When it is selected not to decompose a decomposable complex word, the method can further include determining whether each token is decomposable; if the token is not decomposable, registering the token on a token list; and selecting the optimum token string on the basis of the token list. See, e.g., Specification, paragraphs [0055] to [0064]; see also Fig. 6.

## *The Claims Define Over The Prior Art*

Applicants believe that the references Morimoto and Yokogawa do not concern the same technical problem as the present invention. The present invention concerns a morphological analysis method to resolve the lexical ambiguity of compound words. In contrast, Morimoto and Yokogawa are focused on machine translation. More particularly, Morimoto and Yokogawa's inventions are improvements on a part of "transfer-based machine translation" processing, which is one of the most widely used processing methods.

According to Wikipedia, "transfer-based machine translation" consists of five different technical areas (1. Morphological analysis, 2. Lexical categorization, 3. Lexical

transfer, 4. Structural transfer, and 5. Morphological generation). Each of them has its own difficulties to resolve.

The present invention improves the 1st and 2nd steps. In contrast, Morimoto and Yokogawa are focused exclusively on the 3rd and 4th steps. It is noted that the morphological analysis method of the present invention is the technology used not only for the machine translation, but also for information search (i.e. text search engine), and information extraction (i.e. text mining).

Yokogawa is mainly in the area "4. Structural transfer" of the machine translation. Yokogawa discloses a method of composing a chunk or phrase from morpheme pieces. That means, firstly an inputted string is segmented into morphemes, and then the "coupling" of those morpheme pieces is analyzed. Yokogawa focuses on the "coupling" part and does not mention the details of how to detect the boundaries of morphemes in an inputted string. This is because Yokogawa assumes to analyze English (and some other European) languages as an inputted string. The detection of word boundaries is not a huge problem in these languages as white space characters clearly indicate the boundaries (e.g. "get/ /up").

However, Yokogawa's method is not applicable for other languages including agglutinative languages like Japanese. As shown in "Examples from different languages" section of "Compound word" description on Wikipedia, there are a number of languages where people cannot use white space characters to detect morpheme boundaries because there are no clear markers between the morphemes. This makes it difficult to analyze morpheme boundaries in a compound word. One compound word usually has several candidate sets for the decomposition. All of them are grammatically correct and all pieces are registered to dictionary as valid ones. However, in Japanese language, only one decomposition set is correct, and the rest ones are strange decomposition sets. The software has to analyze and output the optimum token strings for the compound words.

The present invention targets a "decomposition" method, not a "coupling" method for English language as Yokogawa which can be performed only after the detection of morpheme boundaries.

The present invention retrieves all of the possible word candidates from the dictionary, and selects the optimum token strings for compound words to resolve ambiguity. Some applications of morphological analysis, like search engines, require both the compound word form and its decompounded word-pieces to build precise index for documents. Some other applications only need the compound word form, and do not care about the decompounded pieces. Therefore, the present invention introduces a configuration command to correspond to each of them, and decomposes words within a morphological analysis step. Together with grammatical information to select optimum pieces, the present invention can achieve both flexibility and high speed processing for both types of applications. See, e.g., Specification, paragraph [0044].

Morimoto does not concern the morphological analysis, but rather focuses on creating a dictionary for the "3. Lexical transfer" step and "4. Structural transfer" step of machine translation (see col. 2, lines 18-21). Morimoto defines the "complex word" with the criteria described in col. 7, lines 43-54. This definition intends to resolve the difficulty of lexical transfer and structural transfers, not the decomposition difficulty within morphological analysis.

Accordingly, the cited references, alone or in combination, fail to disclose or suggest each and every element of newly added Claim 17. Applicants therefore respectfully submit that Claim 17 defines over the prior art. Furthermore, as each of the remaining claims depends from Claim 17 while reciting additional features, Applicants further respectfully submit that the remaining claims likewise define over the prior art.

Applicants thus respectfully request that the claim rejections under 35 U.S.C. § 103 be withdrawn.

## CONCLUSION

Applicants believe that this application is now in full condition for allowance, which action is respectfully requested. Applicants request that the Examiner call the undersigned if clarification is needed on any matter within this Amendment, or if the Examiner believes a telephone interview would expedite the prosecution of the subject application to completion.

Respectfully submitted,

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